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BOOK REVIEWS

Science and Man. Twenty-four original essays by Aleš Hrdlička, Reinhold Niebuhr, Jacques Maritain, Alfred E. Cohn, Arthur H. Compton, Harold C. Urey, Waldemar Kaempffert, K. Koffka, Brand Blanshard, James T. Shotwell, Carl L. Becker, Julian Huxley, Bronislaw Malinowski, Frank Knight, Lewis Mumford, Walter B. Cannon, Karl T. Compton, Jean Piaget, Philip C. Jessup, Hans Kelsen, Harold D. Lasswell, Edwin G. Conklin, C. G. Jung, Ralph Barton Perry. Edited with an introduction and conclusion by RUTH NANDA ANSHEN. New York: Harcourt, Brace and Company, 1942. Pp. viii + 494 with index. \$4.00.

This is a significant volume, containing for the most part original essays by twenty-four prominent scholars. The work is divided into the following main topics: *Science and the Universe* (Hrdlička, Niebuhr, Maritain, and Cohn), *Science: Its Materials, Methods, Ends* (Arthur Compton, Kaempffert, Shotwell, Urey, Koffka, Blanshard), *Science and Society* (Malinowski, Becker, Huxley, Cannon, Karl Compton, Knight, Mumford), *Science and Internationalism* (Jessup, Kelsen, Lasswell), *Science and the Individual* (Piaget, Jung, Conklin, Perry).

It is necessary to indicate the professed unifying theme of the work. This can be done succinctly by quoting some of the introductory words of the able editor of the "Science and Culture Series," Ruth Nanda Anshen: "Man is a totality; Man is a unity; and it is irrelevant to a true estimation of his nature to develop an infinite multiplicity of doctrines concerning his nature; a scientific one, a philosophical one, a psychological one, a religious one, a secular or a sociological one. All methods contribute (there may be many methods but only one doctrine) to one and the same realization: the indivisible unity of Man. Since Man is composed of every stratum of being, since Man includes every element of reality, every method must be employed in dealing with him."

In the serious limitations of a review, only partial and inadequate estimations of so complex a product can be presented. I shall proceed, then, in a somewhat arbitrary manner by presenting only a few of the essays and, further, by commenting only upon a part of these. This is not, however, completely arbitrary. Some essays deserve special note, both favorable and unfavorable. But even all of these I cannot include, nor sufficiently expand the ones included, and in this respect there is inescapable arbitrariness. And the commentary itself must be a running one, more or less unconnected, rather than a comprehensive, unifying one.

Reinhold Niebuhr's essays on "Religion and Action" is a profound estimation of man as religious. His contrast between what he calls "culture

religion" and "Biblical religion" puts in sharp contrast the difference between making God in the image of man and making man in the image of God. "The Biblical conception of God as Creator and the doctrine of the goodness of creation lead to very significant consequences in the definition of the human situation." Here, staunchly put, is a forthright solution for human spirituality, an answer incommensurable with all "cultural religions," modern naturalism, and perhaps especially so-called modern liberal Christianity which has in effect denied the Christ of Christianity. For, as a summation of all that is only partial and inadequate in all other shades of religion, Christ "... is the divine Logos. At the Cross, human history comes to a full realization of the perennial contradiction in which it stands. Man recognizes not only that he cannot be his own end, but that he cannot be saved from the abortive effort of making himself his own end without a divine initiative which overcomes this rebellion in his heart."

As is perhaps inevitable, Mr. Niebuhr raises the fundamental theological issue at the time of the Reformation, here cast in terms of the Protestant separation of justification and sanctification in St. Paul: "The symbol of salvation is not 'Christus in nobis' but 'Christus pro nobis.' The relation between a divine power which overcomes sin in actual history and of a divine power which overcomes sin by taking it into itself is not completely clear in Pauline thought."

This is hardly the place to comment upon so vital and so completely fundamental an issue. It is to his credit that he puts the separation of the two in so illuminating a light, but this very light also illuminates the divorce of two things which man has put asunder. The Catholic emphasis upon sanctification, as indeed must be the emphasis of *sacramental* religion, does not deny emphasis upon faith. It is the Protestant burden to face this as a terrifying disjunctive, and thereby to render St. Paul (and several others besides) as "not completely clear." The work of Jacques Maritain, here exemplified by "Science and Wisdom," is familiar enough to readers of this review to forego comment; its precision can be attained only in the original. It is worth noting that it uniquely faces fairly and squarely the theme of the book.

In Arthur H. Compton's "The Purpose of Science," many things are ascribed to science. The point of the essay seems to be that all that is beneficial and more humane about man has arisen through the extraordinary technological advancement man has made in the scientific area. There can be no doubt of the magnitude of the scientific achievement; the association of it so completely with human betterment is not so evident.

For example, Mr. Compton insists, technology has emphasized the value of increased education. But all this depends upon what is meant by "education," and if the word is to be restricted to mean training of technological skill only, the situation may not be quite as happy as it appears. This

does not mean that the great technological advance has not given us desirable and necessary technical skills. It does mean we may be paying a price for it by giving it an exclusive value. Can we so readily say that our "specialized society based on technology" has raised us to "an ever higher standard of training and education"? There is certainly ample evidence to indicate that as far as mastering the simple tools of human communication are concerned, we are in a fairly bad condition for intellectual growth.

The following statement also deserves attention: ". . . in this age when men throughout the world are trying to formulate a philosophy which they can live, it is to science that they are turning with confidence in its truth." Such restricted emphasis upon human value and truth in terms of technological skill seems to hit a discordant note in a collection of essays whose professed aim is to open up the variety of methods about man in order to attain a comprehensive doctrine.

Mr. Compton does point out that "science presents to religion the greatest challenge of a millenium, that of presenting modern man with an objective adequate to his needs," and he does insist that "science itself is not that religion." But he adds this: "Nevertheless, though the student of science may not feel qualified to choose for others that which gives life dignity and worth, he does supply the data from which that choice must be made." So that, in effect, apparently science, after all, is to dictate the conditions of intellectual, moral, and religious principles.

Quite refreshing by way of contrast with some of the other essays is Brand Blanshard's "Fact, Value, and Science." He summarizes his main point by underlining the remark that "values are sometimes causes." By implication this means that natural science as such cannot alone give a science of man, that there is some limit to the tremendous advance made by natural science in the past century. Mr. Blanshard puts the matter this way: "We are suggesting that in some regions in which natural science would like to take over, and more specifically in the field of mental process, there is something in the character of the subject-matter which puts it intrinsically and therefore forever beyond the reach of such science."

Mr. Blanshard considers the case of "consciousness" and the unsatisfactory treatment it has had in behaviorism and epiphenomenalism, during which, incidentally, he has some delicious moments by way of estimation. He concludes: "It will not do to deny outright that consciousness exists; and it will not do to admit it and then to deny to it every manner of influence."

Or, again, Mr. Blanshard considers judgments, distinguishing, in modern context, between judgment as an event and judgment as a cognition. It is the latter, of course, that demands explication, for it is revealed to be "a vastly different kind of thing from stubbed toes or falling drops." By putting

forth a brief sketch of the problem of evil, Mr. Blanshard illustrates the scope of what we can regard as a "higher mental process," and the corresponding void that conditioned responses leave by way of explanation. In brief, reasoning cannot be explained by accepted experimental scientific methodology (or "from the outside") since this procedure could only leave one wondering how in the world any reasoning could ever get done. To reach any reasoned conclusion, on the total presumption of reflex action, would be only a matter of luck. Hence, the process of thought must be analyzed itself, and the role of a thinking being must be accounted for in the science of man. "If the natural scientist protests that that would strain his method to the breaking point, he has every right to be heard. He has no obligation to break the molds of his great tradition. By remaining within a severely limited field and employing his admirably definite standards of explanation, he has achieved results that are beyond gratitude. But if he chooses the limited field, he must be content with limited results. He cannot stay there and *also* offer a science of man."

Julian Huxley in "Science, Natural and Social" presents a comparison of methodology in natural and social science. He has an acute estimation of the differences in each and the need of distinction of the two. Much attention is also given to the question of bias, apparently so much more prominent in the social sciences. The author believes, and quite soundly, that the methodology proper to the social sciences will eliminate this more and more.

There is, however, a question of bias that might be raised with respect to the author himself. Bias presumably means some sort of prejudice in viewing things. This Mr. Huxley seems to have in his opening pages in his manner of posing the scientific method to the exclusion of any other conceivable avenue of knowledge, and here again there is an ominous grating on the unifying theme of the book. There are the customary over-generalizations on the "pre-scientific" era, i. e., anywhere before the 17th century; or, again, there is the unhappy dichotomy between scientific method and non-scientific practice and interpretation, the latter embracing in great diffusion magic, theology, and so on. No doubt volumes could be written on the clashes of theology, philosophy, and science, and the unfortunate consequences for all, but to deny two thirds of the problem is to miss it altogether. The heavy scientific bias of supposing that anything "non-scientific" is bias will have to be eliminated if there is ever to be genuine Science of Man and men of science.

The essay of Frank H. Knight on "Fact and Value in Social Science" is something of an attempt to face the disparity in methodology existing between natural and social science. "The difficulties of classification and measurement, amounting to impossibility, if the terms are to imply any high degree of objectivity and precision, suggests and indeed rests upon the essential fact that the data with which social sciences are concerned are

themselves not objective in the physical meaning—are not data of sense observation. They consist of meanings, opinions, attitudes and values, not of physical facts.”

But this very distinction, while aiming legitimately at a difference of subject-matter and method, illustrates the continual embarrassment the social scientist embraces. He remains so dominated by natural science in method that he still tends to derive his own methodology *from* natural science (always more or less unfavorably). For example, as with Mr. Knight, the association of “objectivity” with “data of sense observation” implies that any other sort of “data” is “subjective,” such as “meanings, opinions, attitudes and values.” Until this warped approach to the problem is eradicated, until the presumption that natural science dictates all the conditions of “truth” and “objectivity” is tempered by a really analytic approach to the recognition of the breadth of the content of human knowledge, there not only cannot be a resolution to the general problem of Science and Man, there also cannot be even an understanding of the problem. The social scientist suffers perhaps most from this. He starts out with two strikes called upon him, and retains interest only by a spectacular series of fouls.

This may also explain why the social scientist, in exposition of his own subject, is so often unsatisfactory. He insists upon viewing his science from the vantage point of the natural scientist, and then ineffectually searches for the differences in method and content with which he should have started. Mr. Knight illustrates somewhat this confusion, although he does exhibit occasional insights which indicate a comprehension of the problem. But the whole of the essay, abetted by loose writing and analysis, remains confused. His meager treatment and understanding of means and ends with a limitation of this to what is called “economic behavior,” and, further, a curious disassociation of “ends” and “purposes,” is a case in point.

A breadth of outlook is exhibited by Lewis Mumford in “Looking Forward.” The heart of his solid essay can be put best in his own words: “The facts, at all events, should be plain. Those who have put their faith in mechanical inventions and in the power theme have failed to see that only a modicum of our constant human needs is encompassed by the machine or included in the territory it conquers. We know pretty definitely that men do not live by machines alone, and that the power impulse, however deep and ineradicable, is not a self-sustaining or a self-sufficient one. This is not to deny the importance of the machine in its place; it is merely to acknowledge the fact that it is not a substitute for art and love and friendship and beauty and contemplative understanding.”

The essay of Hans Kelsen on “Conditions of International Justice” must be another thunderbolt to the cause of Science and Man. A defeat of reason is assuredly a defeat of science and man, and nothing could be more deva-

stating on this score than the assertion that "the problem of justice cannot be approached by cognition." This is quite lucidly elaborated in the following sentences: "The most famous definitions (of justice) when subjected to critical analysis, are revealed as empty tautologies on the pattern '*sum cuique*.' . . . But which human needs are worthy of being satisfied, especially which is their proper order of rank, the satisfaction of which needs should take precedence, all that cannot be determined by means of rational cognition. The decision of these questions is a judgment of value determined by emotional factors and is, therefore, subjective in character, as is every true judgment of value." . . . And so on.

If Mr. Kelsen is to be taken literally and seriously, there is certainly no solid ground upon which to rest the cause of international justice. If moral judgments, and therefore also judgments of justice, rest on subjective, emotional factors, upon what grounds do we object to outrageous desires and appetites, or in fact even discern what is outrageous and what is not? Diversity of opinion on what is right and wrong does not destroy an objective basis for a judgment of justice; the diversity is intelligible only because of it. The judgment that moral judgments are merely relative is itself an absolute certification for any kind of lawlessness, and in these days lawlessness packs a whopping, non-tautological meaning. After all, the voluntarist Hitler certainly acts, especially by "decree," as a man who "believes" that justice is only an emotional and subjective matter; if we agree he is right in "believing" this, can we *disagree* with what he is doing?

Certainly the preliminary point here is a "dialectic of morals" facing squarely what moral judgments and acts, especially those of justice, really involve. For the whole problem of justice, if it is intelligent at all, is a problem of recognizing and distinguishing what is not merely emotional and subjective about it. Unless justice is understood at the outset, even only broadly—and by many, vaguely—as a function of rational desire, it is inconceivable how there can be any difficulty about determining justice, or any meaty discussion of the conditions of international justice. All of which, however, does not prevent Mr. Kelsen in the body of his essay from giving a quite thorough consideration of how international law "should" and can operate. But he has fortunately ignored his opening paragraphs.

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Most of the foregoing surface commentary on quite different essays has tended to be merely negative and unappreciative criticism. But this is dictated in large part by the professed aim of the book—the unity of knowledge through diversity of method. The understanding of the breadth of this has escaped too many of the contributors. There is so much information and so little desire and ability to organize it, as it must be organized, hierarchically. The glorious achievement of science, like previous

ones in theology and philosophy, has, in its richness of new insight, brought on the apparently inevitable reaction of provincialism of perspective. *Sapientis est ordinare*—this is the key that is rusting in the lock.

But this is not to invoke a note of despair. The magnitude of the task undoubtedly entails the consequences of preliminary narrowness. After all, the fact of the existence of the book, the announcement and at least general acceptance of the object of the book is a stimulating sign. For although we now have only twenty-four "points of view" bound up loosely in one volume, there is at least tacit recognition that ultimately there is one doctrine at stake, profoundly deepened by a rich variety and difference of method. When men of science really begin to comprehend the extraordinary magnitude of this unity and diversity, when they really begin to open themselves up to the intellectual tradition in which they live and which can improve them as they can improve it, then these men of science will also really begin to inaugurate a Science of Man. We should be gratified that there are stirrings already, and we should remember that maturity is attained by the judicious combination of speculative docility and daring. The groundwork at least is being prepared.

"And thus a new freedom will arise, wiser and stronger than the freedom destroyed by the atomizations of science, and a new concept of Man, noble and with serenity of mind and spirit, Man who may not again experience the disappointment of Job in realizing the impossibility of achieving first principles—Man who is Man only when he is considered as a complete Being, the microcosm, a totality concerning whom any form of segregation is artificial and destructive, for to subdivide Man is to execute him, whereas to recognize his unity is to resurrect him."

These are the closing words of the editor of the book, Ruth Nanda Anshen. It is a matter of temporary regret that generally the contributors are not up to the level of the editor.

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